Next-Gen AI Network Switching – Faster, Smarter, Secure Enhanced Switch Appliance (EXA)

3828 EXA

Product In Development

PRODUCT OVERVIEW

Interface Masters Technologies Enhanced Switch Appliance 3828 EXA is the world's:

- **First and only** 800G DPU-based Edge Server Infrastructure SoC
- **Supports 28 ports of 400G** – software configurable for alternative port speeds
- Featuring the **world's only Open ISA Programmable Ethernet Switch**.

3828 EXA

The 3828 EXA delivers transformative advantages for AI, cloud, and hyperscale data center environments:

- **Ultra-Low Power Efficiency:** Achieves up to 40% lower power consumption compared to conventional 12.8T switches, significantly reducing operational costs.
- **Advanced Programmability:** Built on a fully programmable SDN architecture, enabling tailored packet processing and dynamic network policy control.
- **Minimized Tail Latency:** Powered by X-IQ™ intelligent queuing, which reduces delays and accelerates flow completion times—critical for AI workloads.
- **Real-Time Telemetry:** X-View™ congestion avoidance technology offers deep, real-time visibility into network performance and health.
- **AI Fabric Optimization:** Engineered to meet the demands of high-throughput, low-latency AI infrastructure.
- **Elite Timing Support:** Compliant with precision timing standards for synchronized, deterministic networking.

SOFTWARE

- SONiC (Software for Open Networking in the Cloud)
- SONiC-DASH (Disaggregated API for SONiC Hosts)
- Support available for Linux, DPDK, SPDK and XDP
- OpenBMC and Redfish Integration

Xsight Labs X2 Switch Fabric

- **Industry-Leading Performance:** The Xsight Labs X2 delivers 12.8 Tb of switching capacity with a fully software-defined pipeline and logic architecture.
- **Advanced Switching Core:**
  - Programmable data plane
  - Queue Management (QM)
  - PF-TCAM: (PKT Filtering Ternary Content Memory)
- **Versatile Table Support:**
  - Lookup tables: hash, longest prefix match (LPM), direct-access
  - TCAM
  - Counters
- **High-Level Language Control:** Enables flexible and efficient configuration of network behavior.
  - Shared Ingress/Egress Pipelines: Streamlined architecture for optimized traffic flow.
  - Intel-Based Control Plane: Powered by an Intel 8-core 2.2GHz processor for robust management and orchestration.

Optional 1.6Tbps DPU Data Plane Offload

- **Software-Defined DPU:** Supports 800G or 1.6T for high-performance data plane acceleration.
- **High-Core Architecture:** Powered by dual 64-core Arm Neoverse N2 processors built on advanced 5nm process technology.
- **Secure Memory:** Equipped with 8x DDR5 5200MHz modules featuring inline encryption for enhanced data protection.
- **Line-Rate Network Security:** Implements AES-GCM encryption with full IPSec support for uncompromised throughput.
- **Stateless Offloads:** Includes Checksum, RSS, TSO, and RoCEv2 iCRC for efficient packet processing.
- **Storage Encryption:** Delivers line-rate block storage encryption using AES-XTS for secure data at rest.

Other

- Optional PTP boundary clock supporting G.8275.1, G.8275.2, SMPTE ST2059-2, AES67, IEEE1588 (V2.0 and V2.1), with dedicated timing inputs.
- Titanium efficiency redundant hot-swappable power supplies, port-to-power & power-to-port, AC/DC
- Redundant hot-swappable fans
- Designed and manufactured in US.

ENVIRONMENTAL	
Operating Temperature	-5º to + 40ºC (23ºF to 104ºF)
Operating Humidity	5 to 95%, non-condensing

DIMENSIONS		
	Inches	**Millimeter**
Length	24.0	609.6
Height	1.75	44.45
Width	17.15	435.61

STANDARD ACCESSORIES	
RAIL288	Rail Kit
MCC05	Management and console cabling

PRELIMINARY POWER CONSUMPTION	
Typical	Maximum
400W	1300W

ORDERING INFORMATION	
Part Number	**Description**
3828-EXA-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies.
3828-EXA-T-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies. Includes factory installed timing module.
3828-EXA-1-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies. Includes factory installed 1x800G 64 ARM Core DPU.
3828-EXA-1T-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies. Includes factory installed 1x800G 64 ARM Core DPU and timing module.
3828-EXA-2-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies.2Includes factory installed 2x800G 64 ARM Core DPUs
3828-EXA-2T-XX-Y	3828 EXA 28x400G network ports, Intel 8C 2.2GHz control plane CPU, 2TB SSD, 48GB RAM and redundant hot-swappable fans and power supplies. Includes factory installed 2x800G 64 ARM Core DPUs and timing module.
XX	Instead of XX change to AC for AC PSU or DC for DC PSU options
Y	Instead of Y change to F for port-to-power airflow or B for power-to-port airflow options.
Transceivers	Please check with us for suitable 112G multi-mode and single-mode transceiver options
Support	Support options available for both hardware and software

CUSTOMIZATION SERVICES

Hardware, Firmware, Linux O/S and application code development services are available.

ABOUT INTERFACE MASTERS TECHNOLOGIES, INC.

Interface Masters Technologies is a leading provider of high-speed networking solutions focused on 1/10/25/40/100/200/400 Gigabit Ethernet networking solutions. For 30 years Interface Masters Technologies has been providing innovative networking solutions with customization services to OEMs, large enterprises and sophisticated end users. Interface Masters Technologies provides Ethernet switches, appliances, server adapter cards with high port density, networking offload and bypass functionality.

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